

APPLICATION NO. 10,027,207
DOCKET NO. P1051/N8062

COMPLETE LISTING OF CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1-9 (canceled)

Claim 10 (currently amended) A thermal management system, comprising:

- (1) a heat source having an external surface;
- (2) a thermal interface which comprises an anisotropic flexible graphite sheet article that contains oil, the thermal interface being in operative communication with the external surface of the heat source; and
- (3) a heat dissipating component having a heat collection surface and a heat dissipation surface, the heat collection surface being in operative communication with the thermal interface;

wherein arranging the heat collection surface in operative connection with the thermal interface causes dissipation of heat from the heat source.

Claim 11 (original) The thermal management system of claim 10, wherein the oil is mineral oil, vegetable oil, synthetic oil, essential oil, edible oil, animal oil, and mixtures thereof.

Claim 12 (original) The thermal interface material of claim 10, wherein the oil is mineral oil.

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Claim 13 (previously presented) The thermal management system of claim 10, wherein the heat source is an electronic component.

Claim 14 (canceled)

Claim 15 (original) The thermal management system of claim 10, wherein the planar area of the thermal interface is greater than the area of the external surface of the heat source.

Claim 16 (original) The thermal management system of claim 10 wherein the flexible graphite sheet article is formed by compressing exfoliated particles of natural graphite.

Claim 17 (original) The thermal management system of claim 10 wherein the thermal interface material has a thickness of from about 0.05 mm to about 1.0 mm.

Claim 18 (original) A thermal management system comprising:

(a) a heat source which comprises an electronic component, the heat source having an external surface;

(b) a thermal interface comprising an anisotropic flexible graphite sheet article having two parallel planar surfaces extending in a direction parallel to the planar direction of the crystal structure of the graphite in the sheet, the first of the planar surfaces of the thermal interface being in operative contact with the external surface of the heat source; wherein the graphite sheet comprises at least 2% by weight

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of mineral oil, and wherein the planar area of the first planar surface of the thermal interface is greater than the area of the external surface of the heat source; and

(c) a heat sink comprising a heat collection surface and at least one heat dissipation surface, the heat collection surface of the heat sink being in operative contact with the second of the planar surfaces of the thermal interface.

Claim 19 (original) The thermal management system of claim 18 wherein graphite sheet comprises about 2% to about 75% by weight of mineral oil.

Claim 20 (original) The thermal management system of claim 18 wherein graphite sheet comprises about 10% to about 55% by weight of mineral oil.

Claim 21 (original) The thermal management system of claim 18, wherein the mineral oil has a viscosity of from about 10 to 50 cps.

Claims 22-27 (canceled)

Claim 28 (currently amended) A method of dissipating heat from a heat source, comprising:

(a) providing an heat sink, and providing a thermal interface, the thermal interface comprising ~~an~~ anisotropic flexible graphite sheet article having first and second parallel planar surfaces and having about 2% to about 75% by weight of mineral oil incorporated into the graphite sheet;

(b) placing the first parallel surface of the thermal interface in heat conducting engagement with a heat source, and placing the second parallel surface of the thermal interface in heat conducting engagement with the heat sink; and

(c) conducting heat from the heat source through the thermal interface and into the heat sink.

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Claim 29-31 (canceled)

Claim 32 (previously presented) The thermal management system of claim 10, wherein the oil comprises ester type oil.

Claim 33 (previously presented) The thermal management system of claim 10, wherein the oil comprises a polyalphaolefin oligomer.

Claim 34 (previously presented) The thermal management system of claim 10, wherein the oil comprises an alkylated benzene.

Claim 35-37 (canceled)

Claim 38 (currently amended) A thermal management system, comprising:

- (1) a heat source having an external surface; and
- (2) a thermal interface which comprises an anisotropic flexible graphite sheet that contains oil, the thermal interface being in operative communication with the external surface of the heat source.

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Claim 39 (previously presented) The thermal management system of claim 38 wherein the oil is mineral oil, vegetable oil, synthetic oil, essential oil, edible oil, animal oil, and mixtures thereof.

Claim 40 (previously presented) The thermal interface material of claim 38, wherein the oil is mineral oil.

Claim 41 (previously presented) The thermal management system of claim 38, wherein the heat source is an electronic component

Claim 42 (canceled)

Claim 43 (previously presented) The thermal management system of claim 38, wherein the planar area of the thermal interface is greater than the area of the external surface of the heat source.

Claim 44 (previously presented) The thermal management system of claim 38 wherein the flexible graphite sheet is formed by compressing exfoliated particles of natural graphite.

Claim 45 (previously presented) The thermal management system of claim 38 wherein the thermal interface material has a thickness of from about .05 mm to about 1.0 mm.

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Claim 46 (previously presented) The thermal management system of claim 38 wherein the thermal interface comprises a laminate of flexible graphite sheets.

Claim 47 (previously presented) The thermal management system of claim 10 wherein the thermal interface comprises a laminate of flexible graphite sheets.

Claim 48 (previously presented) The thermal management system of claim 18 wherein the thermal interface comprises a laminate of flexible graphite sheets.

Claim 49 (previously presented) The thermal management system of claim 28 wherein the thermal interface comprises a laminate of flexible graphite sheets.